APRIL/MAY 2025

FCS21 — C++ AND DATA STRUCTURE

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

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1. Define Class.
2. Define Function.
3. Define Virtual function.
4. What is a string?
5. Convert A + B * C – D/E * H to a postfix expression.
6. What is a polynomial?
7. Define leaf node.
8. Give the purpose of Dijkstra's Algorithm.
9. What is Hashing?
10. Define Insertion sort.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write a note on Tokens.

Or

(b) Explain do... While loop.

12. (a) Explain Single Inheritance with an example program.

Or

(b) Discuss about Exception handling in C++.

13. (a) Define stack. Explain its operations.

Or

(b) Compare Array and Linked List.

14. (a) Explain the Binary tree traversal methods.

Or

(b) Evaluate the uses of recursive procedures with an example.

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15. (a) Discuss about Binary search.

Or

(b) Explain about collision in hashing.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail about Constructors.

17. Discuss the general file handling functions.

18. Explain how to create, insert and delete anode in single linked list.

19. Briefly explain the graph traversal methods.

20. Write an algorithm to sort data in ascending order using bubble sort.

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